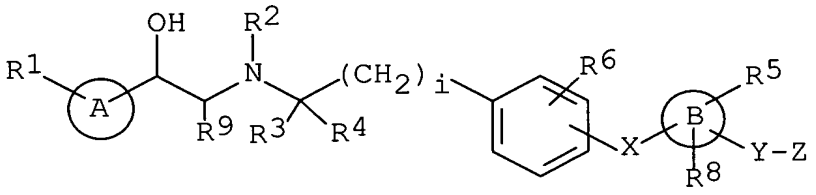
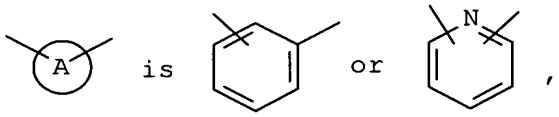
AMENDMENTS TO THE CLAIMS

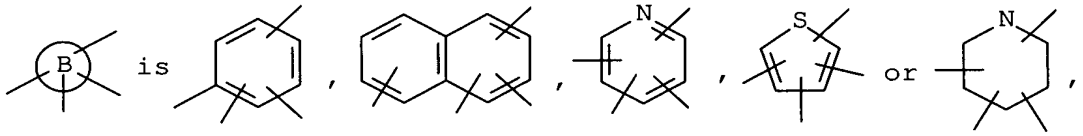
1. (Currently Amended) A compound of ~~the~~ formula [I], or a salt thereof:

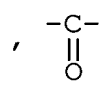


[I]

wherein

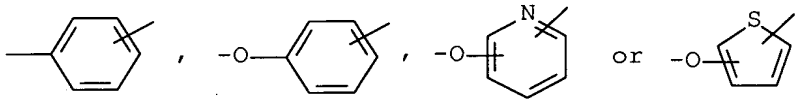




X is bond, $-CH_2-$,  ,  , -O-, $-OCH_2-$, $-CH_2O-$, -S- or 

~~(in which~~ wherein R^7 is hydrogen or lower ~~alkyl)~~ alkyl,

Y is bond, -O-$(CH_2)_n$- ~~(in which~~ wherein n is 1, 2, 3 or 4 ~~or 4)~~, -$(CH_2)_m$- ~~(in which~~ wherein m is 1, 2, 3 or 4 ~~or 4)~~,



Z is cyano, tetrazolyl, (benzylsulfonyl)carbamoyl, benzoylsulfamoyl, formyl, carboxy or protected carboxy,

R^1 is hydrogen, lower alkyl or halogen,

R^2 is hydrogen or an amino protective group,

R^3 is hydrogen or lower alkyl,

R^4 is hydrogen or lower alkyl,

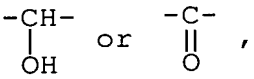
R^5 and R^8 are each independently hydrogen, halogen, hydroxy, lower alkyl, lower alkenyl, lower alkoxy, hydroxy(lower)alkoxy, ~~mono(or di or tri)halo(lower)alkoxy,~~ mono-halo(lower)alkoxy, di-halo(lower)alkoxy, tri-halo(lower)alkoxy, lower alkoxy(lower)alkoxy, lower alkenyloxy, cyclo(lower)alkyloxy, cyclo(lower)alkyl(lower)alkoxy, benzyloxy, phenoxy, lower alkylthio, cyclo(lower)alkylthio, lower alkylsulfonyl, cyclo(lower)alkylsulfonyl, amino, ~~mono(or di)(lower)alkylamino,~~ mono-(lower)alkylamino, di-(lower)alkylamino, ~~mono(or di or tri)halo(lower)alkyl,~~ mono-halo(lower)alkyl, di-halo(lower)alkyl, tri-halo(lower)alkyl, cyano, piperidinyl or phenyl,

R^6 is hydrogen, lower alkyl or halogen,

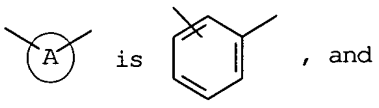
R^9 is hydrogen or lower alkyl, and

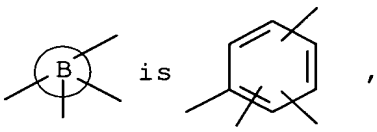
i is 1 or 2,

provided that

(1) when X is bond, $-CH_2-$, 

,

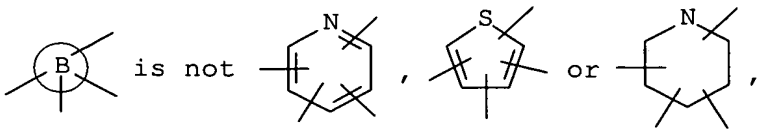




,

then R^5 is not hydrogen, or

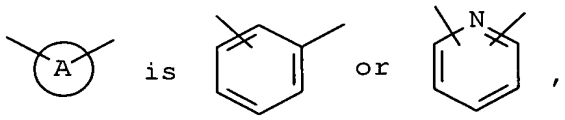
(2) when i is 1,

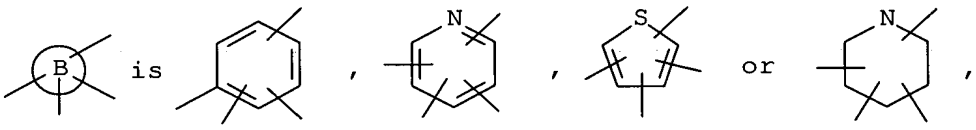
then 

and further with the proviso that said compound of salt thereof meets one of the following conditions:

- at least one of R^5 and R^8 is selected from the group consisting of halogen, hydroxy, lower alkyl having 2-6 carbon atoms, lower alkenyl, lower alkoxy, hydroxy(lower)alkoxy, mono-halo(lower)alkoxy, di-halo(lower)alkoxy, tri-halo(lower)alkoxy, lower alkoxy(lower)alkoxy, lower alkenyloxy, cyclo(lower)alkyloxy, cyclo(lower)alkyl(lower)alkoxy, benzyloxy, phenoxy, lower alkylthio, cyclo(lower)alkylthio, lower alkylsulfonyl, cyclo(lower)alkylsulfonyl, amino, mono-(lower)alkylamino, di-(lower)alkylamino, mono-halo(lower)alkyl, di-halo(lower)alkyl, tri-halo(lower)alkyl, cyano, piperidinyl and phenyl;
- both R^5 and R^8 are a lower alkyl; or
- when Y is a bond and R^5 and R^8 are both hydrogen, Z is selected from the group consisting of cyano, tetrazolyl, (benzylsulfonyl)carbamoyl, benzoylsulfamoyl, and formyl ~~or a salt thereof~~.

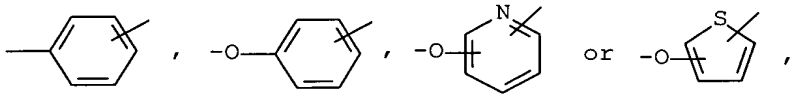
2. (Currently Amended) ~~A~~ The compound of formula [I] as defined in claim 1, wherein





X is bond, -O-, $-OCH_2-$, -S- or $-\overset{R^7}{N}-$ ~~(in which~~ wherein R^7 is hydrogen or lower ~~alkyl)~~ alkyl,

Y is bond, $-O-(CH_2)_n-$ ~~(in which~~ wherein n is 1, 2, 3 or 4 ~~or 4)~~, $-(CH_2)_m-$ ~~(in which~~ wherein m is 1, 2, 3 or 4 ~~or 4)~~,



Z is carboxy or lower alkoxycarbonyl,

R^1 is hydrogen or halogen,

R^2 is hydrogen,

R^3 is hydrogen or lower alkyl,

R^4 is hydrogen,

R^5 is halogen, hydroxy, lower alkyl, lower alkoxy, hydroxy(lower)alkoxy, ~~mono(or di or tri)halo(lower)alkoxy,~~ mono-halo(lower)alkoxy, di-halo(lower)alkoxy, tri-halo(lower)alkoxy, lower alkoxy(lower)alkoxy, lower alkenyloxy, cyclo(lower)alkyloxy, phenoxy or phenyl,

R^6 is hydrogen,

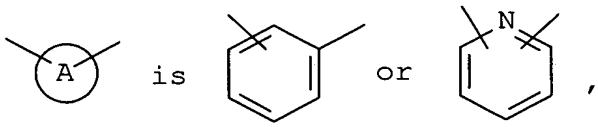
R^8 is hydrogen or lower alkyl,

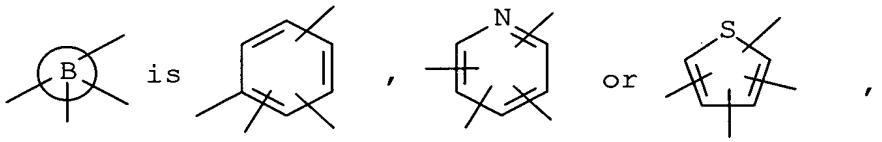
R^9 is hydrogen or lower alkyl, and

i is 1 or 2.

3. (Currently Amended) ~~A~~ The compound of formula [I] as defined in claim 2,

wherein





X is bond, -O-, $-OCH_2-$, -S- or $\begin{matrix}-N-\\ |\\ R^7\end{matrix}$ ~~(in which~~ wherein R^7 is hydrogen or lower ~~alkyl)~~ alkyl,

Y is bond, $-O-(CH_2)_n-$ ~~(in which~~ wherein n is 1 or 2 ~~or 2)~~ or $-(CH_2)_m-$ ~~(in which~~ wherein m is 1 or 2 ~~or 2)~~,

Z is carboxy or lower alkoxycarbonyl,

R^1 is hydrogen or halogen,

R^2 is hydrogen,

R^3 is hydrogen or lower alkyl,

R^4 is hydrogen,

R^5 is halogen, hydroxy, lower alkyl or lower alkoxy,

R^6 is hydrogen,

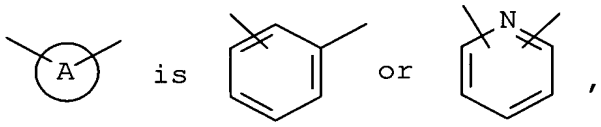
R^8 is hydrogen or lower alkyl,

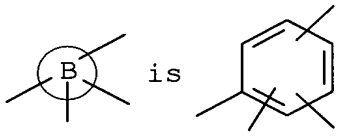
R^9 is hydrogen or lower alkyl, and

i is 1.

4. (Currently Amended) ~~A~~ The compound of formula [I] as defined in claim 3,

wherein





X is bond,

Y is bond,

Z is carboxy or lower alkoxycarbonyl,

R^1 is hydrogen or halogen,

R^2 is hydrogen,

R^3 is hydrogen or lower alkyl,

R^4 is hydrogen,

R^5 is halogen, hydroxy, lower alkyl or lower alkoxy,

R^6 is hydrogen,

R^8 is hydrogen or lower alkyl,

R^9 is hydrogen or lower alkyl, and

i is 1.

5. (Currently Amended) ~~A~~ The compound of formula [I] as defined in claim 4, which is selected from the group consisting of

~~(1) 4'-[2-[[(2R)-2-(3-Chlorophenyl)-2-hydroxyethyl]-amino]ethyl]-2-methyl-1,1'-biphenyl-4-carboxylic acid,~~

~~(2)~~ (1) 4'-[(2R)-2-[[(2R)-2-Phenyl-2-hydroxyethyl]amino]-propyl]-3-methoxy-1,1'-biphenyl-4-carboxylic acid,

~~(3)~~ (2) 4'-[(2R)-2-[[(2R)-2-(3-Chlorophenyl)-2-hydroxyethyl]amino]propyl]-3-isopropyloxy-1,1'-biphenyl-4-carboxylic acid,

~~(4)~~ (3) 4'-[2-[[(2R)-2-(3-Chlorophenyl)-2-hydroxyethyl]-amino]ethyl]-3-methoxy-1,1'-biphenyl-4-carboxylic acid,

~~(5)~~ (4) 4'-[2-[[(2R)-2-(3-Chlorophenyl)-2-hydroxyethyl]-amino]ethyl]-2,3-dimethyl-1,1'-biphenyl-4-carboxylic acid,

~~(6)~~ (5) 4'-[2-[[(2R)-2-Hydroxy-2-(3-pyridyl)ethyl]amino]-ethyl]-2-methyl-1,1'-biphenyl-4-carboxylic acid,

~~(7)~~ (6) 4'-[(2R)-2-[[(2R)-2-Hydroxy-2-(3-pyridyl)ethyl]-amino]propyl]-3-methoxy-1,1'-biphenyl-4-carboxylic acid,

~~(8)~~ (7) 4'-[2-[[(2R)-2-(3-Fluorophenyl)-2-hydroxyethyl]-amino]ethyl]-3-propoxy-1,1'-biphenyl-4-carboxylic acid,

~~(9)~~ (8) 4'-[(2R)-2-[[(2R)-2-(3-Fluorophenyl)-2-hydroxyethyl]amino]propyl]-3-propoxy-1,1'-biphenyl-4-carboxylic acid,

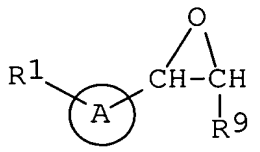
~~(10)~~ (9) 4'-[2-[[(1S,2R)-2-Hydroxy-2-(4-hydroxyphenyl)-1-methylethyl]amino]ethyl]-3-isopropoxy-1,1'-biphenyl-4-carboxylic acid, and

~~(11)~~ (10) 4'-[2-[[(2R)-2-Hydroxy-2-phenylethyl]amino]ethyl]-3-isobutyl-1,1'-biphenyl-4-carboxylic acid,

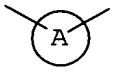
or a pharmaceutically acceptable salt thereof.

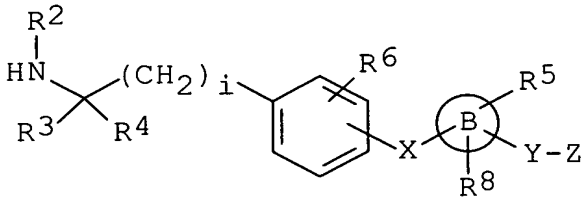
6. (Withdrawn; Currently Amended) A process for preparing a compound of formula [I] as defined in claim 1, or a salt thereof, which comprises,

(i) reacting a compound [II] of the formula:

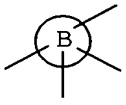


[II]

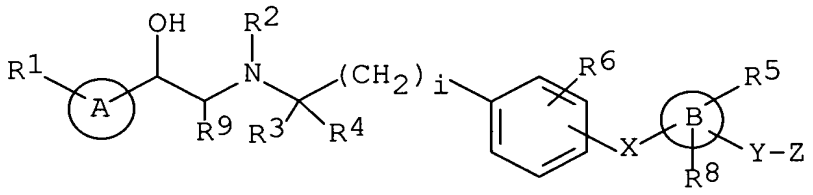
wherein R^1, R^9 and  are each as defined in claim 1, with a compound [III] of the formula:



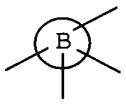
[III]

wherein  , X, Y, Z, R^2, R^3, R^4, R^5, R^6, R^8 and i are each as defined in claim 1,

or a salt thereof, to give a compound [I] of the formula:

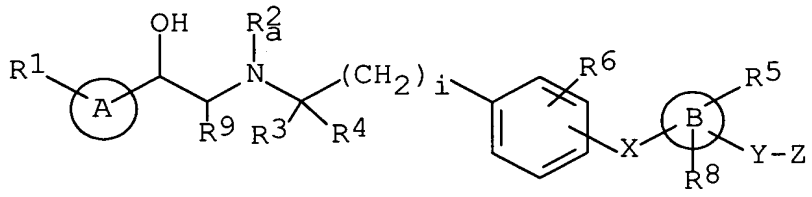


[I]

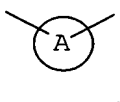
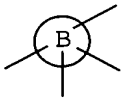
wherein  ,  , X, Y, Z, R^1, R^2, R^3, R^4, R^5, R^6, R^8, R^9 and i are each as defined in claim 1,

or a salt thereof,

(ii) subjecting a compound [Ia] of the formula:

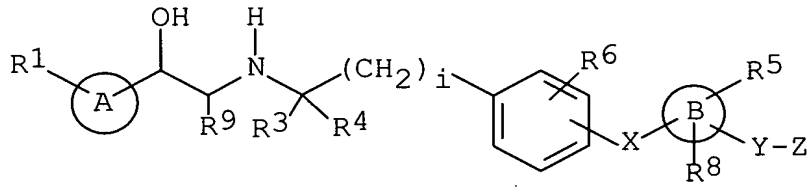


[Ia]

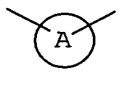
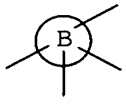
wherein  ,  , X, Y, Z, R^1, R^3, R^4, R^5, R^6, R^8, R^9 and i are each as defined in claim 1, and

R^2_a is an amino protective group,

or a salt thereof, to elimination reaction of the amino protective group, to give a compound [Ib] of the formula:

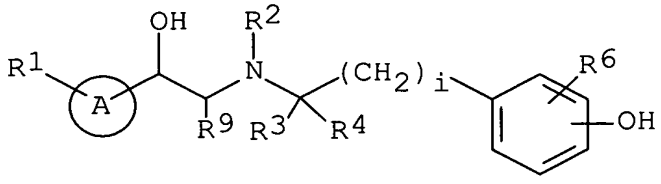


[Ib]

wherein  ,  , X, Y, Z, R^1, R^3, R^4, R^5, R^6, R^8, R^9 and i are each as defined in claim 1,

or a salt thereof,

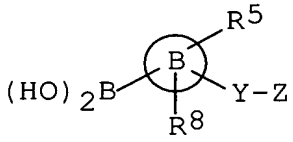
(iii) reacting a compound [IV] of the formula:



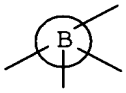
[IV]

wherein  , R^1, R^2, R^3, R^4, R^6, R^9 and i are each as defined in claim 1,

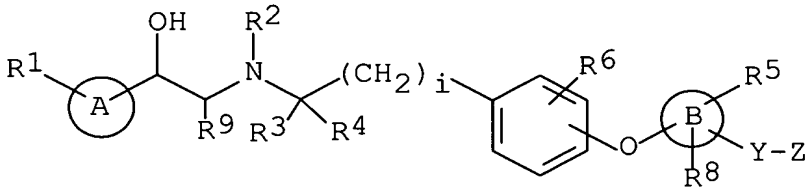
or a salt thereof, with a compound [V] of the formula:



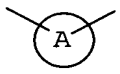
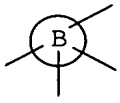
[V]

wherein  , Y, Z, R^5 and R^8 are each as defined in claim 1,

or a salt thereof, to give a compound [Ic] of the formula:

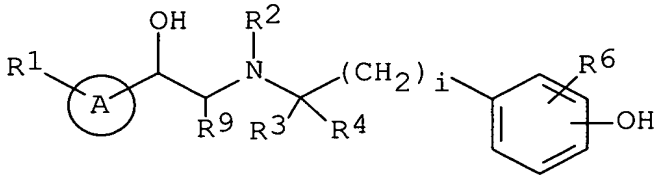


[Ic]

wherein  ,  , Y, Z, R^1, R^2, R^3, R^4, R^5, R^6, R^8, R^9 and i are each as defined in claim 1,

or a salt thereof,

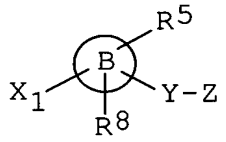
(iv) reacting a compound [IV] of the formula:



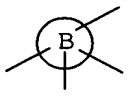
[IV]

wherein  , R^1, R^2, R^3, R^4, R^6, R^9 and i are each as defined in claim 1,

or a salt thereof, with a compound [VI] of the formula:

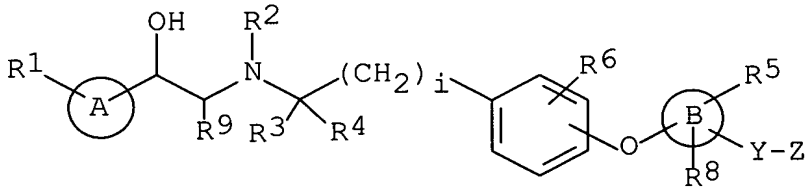


[VI]

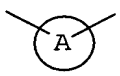
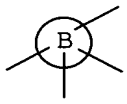
wherein  , Y, Z, R^5 and R^8 are each as defined in claim 1, and

X_1 is a leaving group,

or a salt thereof, to give a compound [Ic] of the formula:

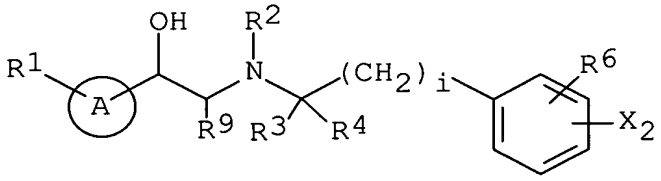


[Ic]

wherein  ,  , Y, Z, R^1, R^2, R^3, R^4, R^5, R^6, R^8, R^9 and i are each as defined in claim 1,

or a salt thereof,

(v) reacting a compound [VII] of the formula:

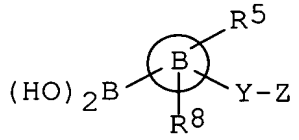


[VII]

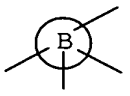
wherein  , R^1, R^2, R^3, R^4, R^6, R^9 and i are each as defined in claim 1,

X_2 is a leaving group,

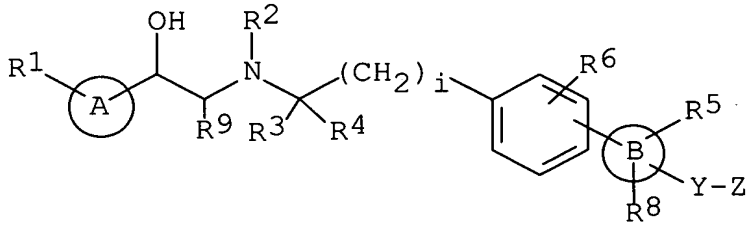
or a salt thereof, with a compound [V] of the formula:



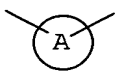
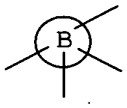
[V]

wherein  , Y, Z, R^5 and R^8 are each as defined in claim 1,

or a salt thereof, to give a compound [Id] of the formula:

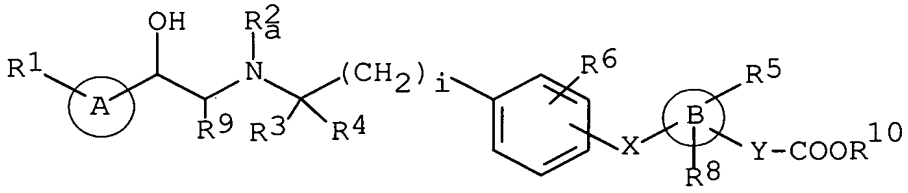


[Id]

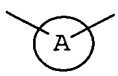
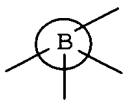
wherein  ,  , Y, Z, R^1, R^2, R^3, R^4, R^5, R^6, R^8, R^9 and i are each as defined in claim 1,

or a salt thereof, and

(vi) subjecting a compound [Ie] of the formula:



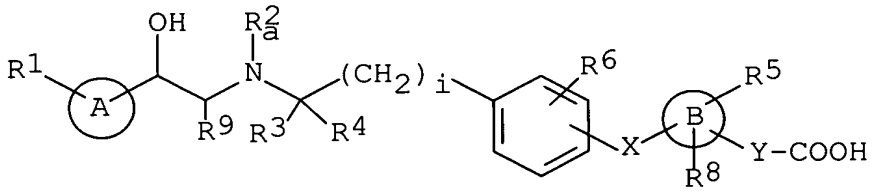
[Ie]

wherein  ,  , X, Y, R^1, R^3, R^4, R^5, R^6, R^8, R^9 and i are each as defined in claim 1,

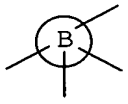
R^{10} is lower alkyl, and

R_a^2 is an amino protective group,

or a salt thereof, to deesterification reaction, to give a compound [If] of the formula:

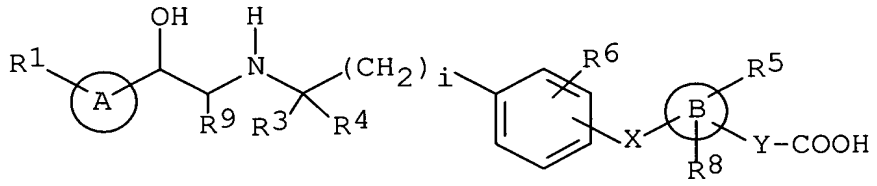


[If]

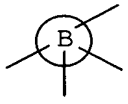
wherein  ,  , X, Y, R^1, R^3, R^4, R^5, R^6, R^8, R^9 and i are each as defined in claim 1, and

R_a^2 is defined above,

or a salt thereof, and then subjecting the compound [If] above to elimination reaction of amino protective group, to give a compound [Ig] of the formula:



[Ig]

wherein  ,  , X, Y, R^1, R^3, R^4, R^5, R^6, R^8, R^9 and i are each as defined in claim 1,

or a salt thereof.

7. (Currently Amended) A pharmaceutical composition which comprises~~, as an active ingredient,~~ a therapeutically effective amount of a compound of formula [I] as defined in

claim 1 or a pharmaceutically acceptable salt thereof in admixture with pharmaceutically acceptable carriers or excipients.

8. – 9. (Canceled)

10. (Currently Amended) A method of agonizing β_3 adrenergic receptor comprising administering an effective amount of a compound of formula [I] as defined in claim 1 or a pharmaceutically acceptable salt thereof to a subject in need thereof ~~for use as selective β_3 adrenergic receptor agonists~~.

11. (Currently Amended) A method for ~~the prophylactic and/or the therapeutic treatment of~~ treating pollakiuria or urinary incontinence in a human or animal in need thereof which comprises administering a therapeutically effective amount of a compound of formula [I] as defined in claim 1 or a pharmaceutically acceptable salt thereof ~~to a human being or an animal~~.

12. (New) The method of claim 11, wherein said treating pollakiuria or urinary incontinence is in a human in need thereof.

13. (New) The method of claim 11, wherein said treating pollakiuria or urinary incontinence is in an animal in need thereof.

14. (New) The compound of formula [I] as defined in claim 1, wherein said compound of formula [I] is 4'-[2-[[(2R)-2-(3-Chlorophenyl)-2-hydroxyethyl]-amino]ethyl]-3-methoxy-1,1'-biphenyl-4-carboxylic acid or a pharmaceutically acceptable salt thereof.

15. (New) The process of claim 6, wherein said compound of formula [I] is 4'-[2-[[(2R)-2-(3-Chlorophenyl)-2-hydroxyethyl]-amino]ethyl]-3-methoxy-1,1'-biphenyl-4-carboxylic acid or a pharmaceutically acceptable salt thereof.

16. (New) The pharmaceutical composition of claim 7, wherein said compound of formula [I] is 4'-[2-[[(2R)-2-(3-Chlorophenyl)-2-hydroxyethyl]-amino]ethyl]-3-methoxy-1,1'-biphenyl-4-carboxylic acid or a pharmaceutically acceptable salt thereof.

17. (New) The method of claim 10, wherein said compound of formula [I] is 4'-[2-[[(2R)-2-(3-Chlorophenyl)-2-hydroxyethyl]-amino]ethyl]-3-methoxy-1,1'-biphenyl-4-carboxylic acid or a pharmaceutically acceptable salt thereof.

18. (New) The method of claim 11, wherein said compound of formula [I] is 4'-[2-[[(2R)-2-(3-Chlorophenyl)-2-hydroxyethyl]-amino]ethyl]-3-methoxy-1,1'-biphenyl-4-carboxylic acid or a pharmaceutically acceptable salt thereof.

19. (New) The compound of formula [I] as defined in claim 1, wherein at least one of R^5 and R^8 is selected from the group consisting of halogen, hydroxy, lower alkyl having 2-6 carbon atoms, lower alkenyl, lower alkoxy, hydroxy(lower)alkoxy, mono-halo(lower)alkoxy, di-halo(lower)alkoxy, tri-halo(lower)alkoxy, lower alkoxy(lower)alkoxy, lower alkenyloxy,

cyclo(lower)alkyloxy, cyclo(lower)alkyl(lower)alkoxy, benzyloxy, phenoxy, lower alkylthio, cyclo(lower)alkylthio, lower alkylsulfonyl, cyclo(lower)alkylsulfonyl, amino, mono-(lower)alkylamino, di-(lower)alkylamino, mono-halo(lower)alkyl, di-halo(lower)alkyl, tri-halo(lower)alkyl, cyano, piperidinyl and phenyl

20. (New) The compound of formula [I] as defined in claim 1, wherein both R^5 and R^8 are a lower alkyl.

21. (New) The compound of formula [I] as defined in claim 1, wherein when Y is a bond and R^5 and R^8 are both hydrogen, Z is selected from the group consisting of cyano, tetrazolyl, (benzylsulfonyl)carbamoyl, benzoylsulfamoyl, and formyl.

SUPPORT FOR THE AMENDMENTS

Claims 8 and 9 have been canceled.

Claims 1-7, 10, and 11 have been amended.

Claims 12-21 have been added.

The amendment of Claims 1-7, 10, and 11 is supported by the corresponding claims as originally presented. Additional support for the amendment of Claim 1 can be found in the specification at pages 3-10, for example at page 7, lines 18-28. New Claims 12 and 13 are supported by original Claim 11. New Claims 14-18 are supported by Claims 1, 5-7, 10, and 11 as originally filed. New Claims 19-21 are supported by originally filed Claim 1 and the specification at pages 3-10, for example at page 7, lines 18-28.

No new matter has been added by the present amendments.